

Figure 1. Humanized *R. reniformis* GFP polynucleotide sequence (wt hrGFP; SEQ ID NO: 1)

5'-

ATGGTGAGCAAGCAGATCCTGAAGAACACCTGCCTGCAGGAGGTGATGAG
CTACAAGGTGAACCTGGAGGGCATCGTAACAAACCACGTGTTACCATGGA
GGGCTGCGGCAAGGGCAACATCCTGTTGGCAACCAGCTGGTGCAGATCC
GCGTACCAAGGGCGCCCCCTGCCCTCGCCTCGACATCGTGAGCCCC
GCCTTCCAGTACGGCAACCGCACCTCACCAAGTACCCCAACGACATCAGC
GAATCTCATCCAGAGCTTCCCCGCCGGCTTACGTACGAGCGCACCTG
CGCTACGAGGACGGCGGCCTGGTGGAGATCCGCAGCGACATCAACCTGAT
CGAGGACAAGTTCGTGTACCGCGTGGAGTACAAGGGCAGCAACTTCCCCG
ACGACGGCCCCGTGATGCAGAAGACCATCCTGGCATCGAGCCCAGCTTC
GAGGCCATGTACATGAACAACGGCGTGTGGTGGCGAGGTGATCCTGGT
GTACAAGCTGAACAGCGGCAAGTACTACAGCTGCCACATGAAGACCTGAT
GAAGAGCAAGGGCGTGGTGAAGGAGTTCCCCCTCCTACCACTTACCCAGCA
CCGCCTGGAGAAGACCTACGTGGAGGACGGCGGCTCGTGGAGCAGCAC
GAGACCGCCATGCCAGATGACCAGCATCGGCAAGCCCCGGCAGCCT
GCACGAGTGGGTGTAA-3'

Figure 2: Sequence of hrGFP-173 (SEQ ID NO: 2); the 18 base insert is underlined

5'-

ATGGTGAGCAAGCAGATCCTGAAGAACACCGGCCTGCAGGAGATCATGAG
CTTCAAGGTGAACCTGGAGGGCGTGGTGAACAACCACGTGTTACCATGGA
GGGCTGCGGCAAGGGCAACATCCTGTTGGCAACCAGCTGGTGCAGATCC
GCGTGACCAAGGGCGCCCCCTGCCCTCGCCTCGACATCCTGAGCCCC
GCCTTCCAGTACGGCAACCGCACCTCACCAAGTACCCGAGGACATCAGC
GACTTCTTCATCCAGAGCTTCCCCGCCGGCTCGTGTACGAGCGCACCTG
CGCTACGAGGACGGCGGCCTGGTGGAGATCCGCAGCGACATAACCTGAT
CGAGGAGATGTTCGTGTACCGCGTGGAGTACAAGGGCCGCAACTCCCCA
ACGACGGCCCCGTGATGAAGAAGACCATCACCGGCCTGCAGCCCAGCTC
GAGGTGGTGTACATGAACGACGGCGTGGTGGAGGTGATCCTGGT
GTACCGCCTGAACAGCAGATCTGAATTCGACGTGGCAAGTTCTACAGCTG
CCACATGCGCACCCGTGATGAAGAGCAAGGGCGTGGTGAAGGACTCCCCG
AGTACCACTTCATCCAGCACCGCCTGGAGAAGACCTACGTGGAGGACGGC
GGCTCGTGGAGCAGCACGAGACCGCCATGCCAGCTGACCAGCCTGGG
CAAGCCCCCTGGGCAGCCTGCACGAGTGGGTGTAA-3'

Figure 3: Polypeptide sequence of hrGFP (SEQ ID NO: 3)

MVKQILKNTGLQEIMSFVNLEGVVNNHVFTMECGKGNILFGNQLVQIRVTK
GAPLPFAFDILSPAFCYGNRTFTKYPEDISDFFIQSFPAQFVYERTLRYEDGGLV
EIRSDINLIEEMFVYRVEYKGRNFPNDGPVMKKITGLQPSFEVVYMDGVLVG
QVILVYRLNSGKFYSCHMRTLMKSKGVVKDFPEYHFIQHRLEKTYVEDGGFVE
QHETAIQLTSLGKPLGSLHEWV

Figure 4: Predicted protein sequence of hrGFP-173 (SEQ ID NO: 4); the 6 amino acid insertion is underlined

MVKQILKNTGLQEIMSFVNLEGVVNNHVFTMECGKGNILFGNQLVQIRVTK
GAPLPFAFDILSPAFCYGNRTFTKYPEDISDFFIQSFPAGFVYERTLRYEDGGLV
EIRSDINLIEEMFVYRVEYKGRNFPNDGPVMKKITGLQPSFEVVYMDGVLVG
QVILVYRLNSRSEFDVGKFYSCHMRTLMKSKGVVKDFPEYHFIQHRLEKTYVED
GGFVEQHETAIAQLTSLGKPLGSLHEWV

**Figure 5 Renilla Reniformis GFP protein coding sequence
(SEQ ID No: 5)**

R. ren: 1 ATGGTGAGTAAACAAATATTGAAGAACACTGGATTGCAGGAGATCATGTCGTTAAAGTGAATC 64

R. ren: 65 TGGAAAGGTGTAGTAAACAATCATGTGTTACAATGGAAGGTTGTGGAAAAGGAAAATATT 124

R. ren: 125 TATTGGAAACCAACTGGTTCAGATTGTCACAAAAGGGGCTCCGCTTCCATTGCAT 184

R. ren: 185 TTGATATTCTCTCACAGCTTCCAATACGGCAACCGTACATTACGAAATACCGGAGG 244

R. ren: 245 ATATATCAGACTTTTATACAATCATTCCAGCGGGATTGTATACGAAAGAACGTTGC 304

R. ren: 305 GTTACGAAGATGGTGGACTGGTTGAAATCCGTTCAGATATAAATTAAATCGAGGAGATGT 364

R. ren: 365 TTGTCTACAGAGTGGAAATATAAAGGTAGTAACCTCCGAATGATGGTCCAGTGATGAAGA 424

R. ren: 425 AGACAATCACAGGATTACAACCTCGTTGAAGTTGTATATGAACGATGGCGTCTGG 484

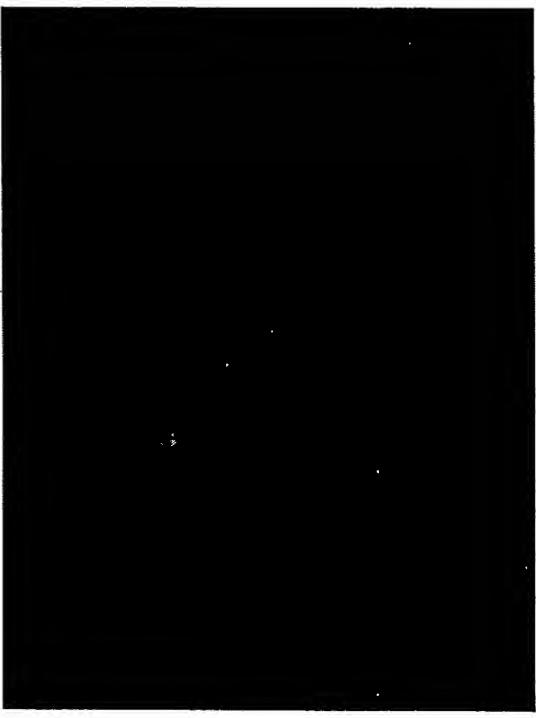
R. ren: 485 TTGGCCAAGTCATTCTGTTATAGATTAAACTCTGGCAAATTTATTCTGTCACATGA 544

R. ren: 545 GAACACTGATGAAATCAAAGGGTGTAGTGAAGGATTTCCCGAATACCATTCAAC 604

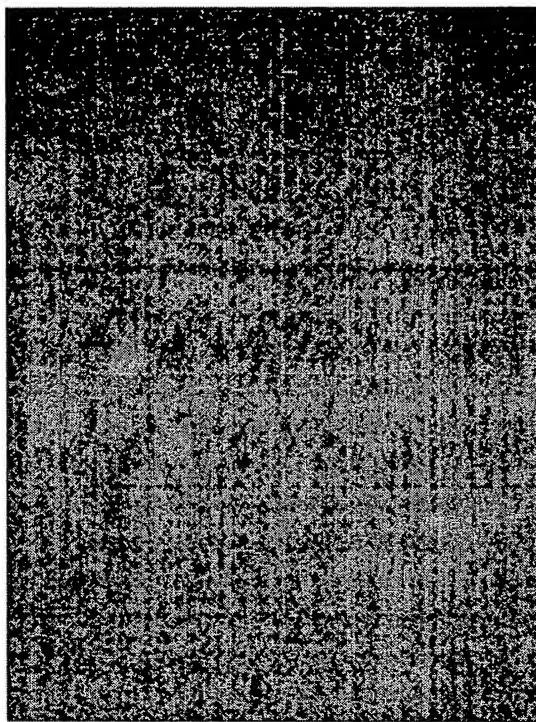
R. ren: 605 ATCGTTAGAGAAGACGTATGTGGAAGACGGAGGTTTGAGCAACACGAGACGGCCA 664

R. ren: 665 TTGCTCAACTGACATCGCTGGGAAACCACTGGATCCTACACGAATGGTTAA 720

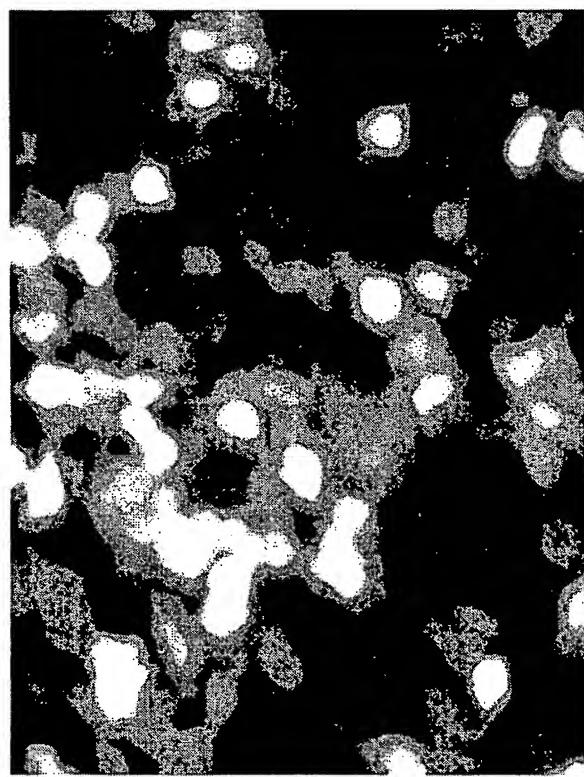
Figure 6a: hrGFP-173, 24-hour expression in 293 cells



hrGFP-173 (integrate 111 = 3.69 sec)

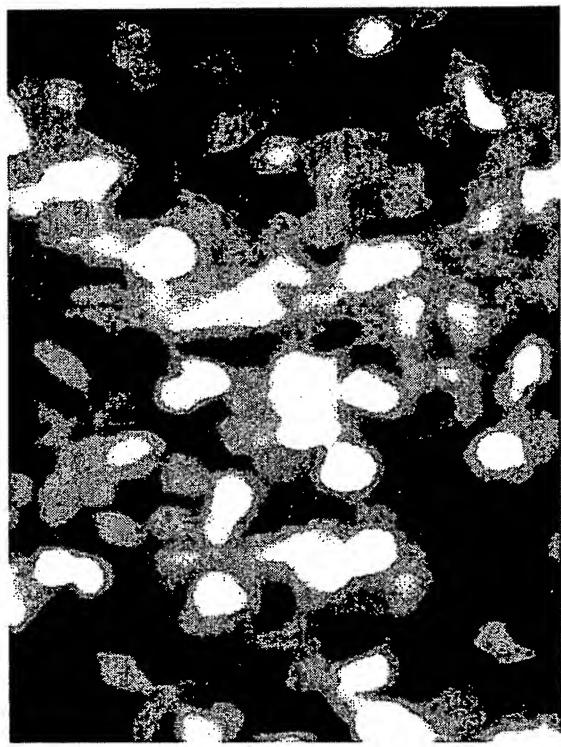


hrGFP-173 (integrate 411 = 13.69 sec)



hrGFP (wild type) (integrate 111 = 3.69 sec)

hrGFP-C control integrate 111 = 3.69 sec



hrGFP-C control integrate 411 = 3.69 sec

Figure 6b: ~70 hr expression of hrGFP-173, -174, -175 and wt
integrate 411 = 13.69 secs

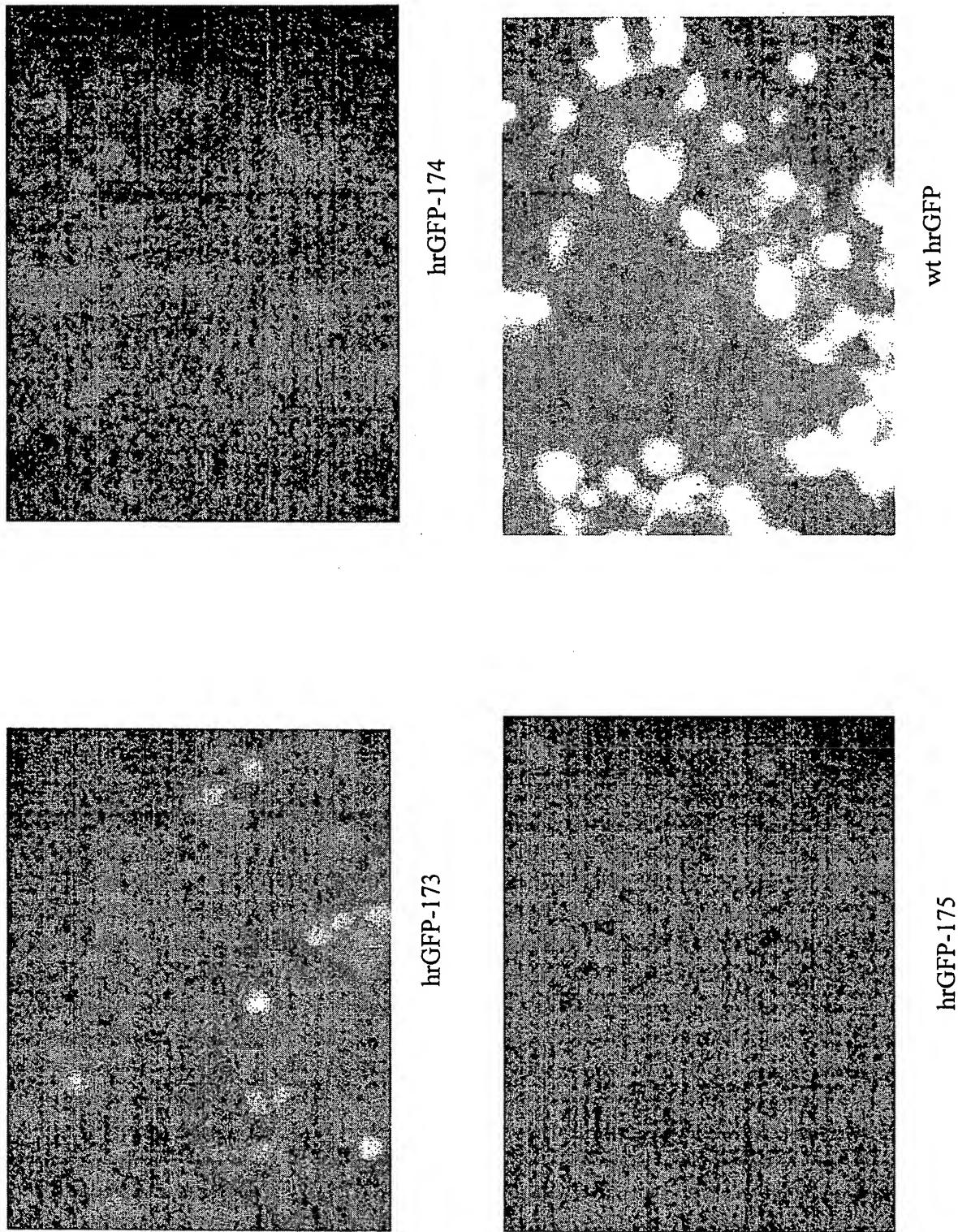


Figure 7: hrGFP-173, 24-hour expression in 293 cells (integrate 3.9 sec)

